

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A vehicle brake apparatus comprising:

a brake operating member operable by a vehicle driver;

a variable output mechanism which is disposed between the brake operating member and an output member, in which a multiplying ratio of an output force is changed mechanically and non-linearly in relation to an operational input force from the brake operating member in accordance with an operating stroke of the brake operating member; and

a brake controlling unit which is operated in accordance with the output force applied to the output member,

wherein a load sensor for detecting the output force is provided between the variable output mechanism and the output member; and

wherein the vehicle brake apparatus further comprises a reaction force unit including a single spring attached to the output member for applying a reaction force to the output member by biasing the output member.

2. (Previously Presented) The vehicle brake apparatus according to claim 1,

wherein the variable output mechanism comprises:

an intermediate connecting member which is disposed on a supporting member fixed on a vehicle body such that the intermediate connecting member is pivotable

about a second axis perpendicular to a operational plane of the brake operating member;

a first lever which is provided integrally with the intermediate connecting member, connected with the brake operating member and pivotable about the second axis together with the intermediate connecting member in accordance with the operating stroke of the brake operating member; and

a second lever which is provided integrally with the intermediate connecting member such that the second lever is apart from the first lever in the axial direction of the second axis and is connected with the output member for displacing the output member in accordance with a pivotal movement of the intermediate connecting member.

3. (Previously Presented) The vehicle brake apparatus according to claim 1 or 2, wherein the brake controlling unit is capable of controlling the brake force electrically, the vehicle brake apparatus further comprising:

an electric control unit for controlling the brake force of the brake controlling unit electrically based on the output force value of the load sensor.

4. (Original) The vehicle brake apparatus according to claim 3 further comprising a stroke sensor for detecting the operating stroke of the brake operating member, wherein the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor.

5. (Previously Presented) The vehicle brake apparatus according to claim 4, wherein the brake operating member is disposed on the supporting member fixed on the vehicle body such that the brake operating member is pivotable about a specified first axis, and the stroke sensor is disposed on the supporting member coaxial with the first axis for detecting the amount of pivotal movement of the brake operating member.

6. (Previously Presented) The vehicle brake apparatus according to claim 1 or 2, wherein the spring outputs a linear reaction force.

7. (Previously Presented) The vehicle brake apparatus according to claim 6, wherein the reaction force unit further includes a damper for applying a depressing reaction force to the brake operating member.

8. (Previously Presented) The vehicle brake apparatus according to claim 6, wherein the brake controlling unit is capable of controlling the brake force electrically, and

wherein the vehicle brake apparatus further comprises an electric control unit for controlling the brake force of the brake controlling unit electrically based on the output value of the load sensor.

9. (Previously Presented) The vehicle brake apparatus according to claim 8, further comprising a stroke sensor for detecting the operating stroke of the brake operating member, and

wherein the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor.

10. (Previously Presented) The vehicle brake apparatus according to claim 9, wherein the brake operating member is disposed on the supporting member fixed on the vehicle body such that the brake operating member is pivotable about a specified first axis, and

wherein the stroke sensor is disposed on the supporting member coaxial with the first axis for detecting the amount of rotation of the brake operating member.

11. (Previously Presented) The vehicle brake apparatus according to claim 7, wherein the brake controlling unit is capable of controlling the brake force electrically, the vehicle brake apparatus further comprising an electric control unit for controlling the brake force of the brake controlling unit electrically based on the output value of the load sensor.

12. (Previously Presented) The vehicle brake apparatus according to claim 11, further comprising a stroke sensor for detecting the operating stroke of the brake operating member,

wherein the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor.

13. (Previously Presented) The vehicle brake apparatus according to claim 12, wherein the brake operating member is disposed on the supporting member fixed on the vehicle body such that the brake operating member is pivotable about a specified first axis, and

wherein the stroke sensor is disposed on the supporting member coaxial with the first axis for detecting the amount of rotation of the brake operating member.

14. (New) A vehicle brake apparatus according to claim 1, wherein the single spring includes a first end attached to the output member, and a second end attached to a vehicle body.

15. (New) A vehicle brake apparatus according to claim 1, wherein the load sensor transmits the detected output of the variable output mechanism to the brake controlling unit.

16. (New) A vehicle brake apparatus comprising:
a brake operating member operable by a vehicle driver;
a variable output mechanism which is disposed between the brake operating member and an output member, in which a multiplying ratio of an output force is changed mechanically and non-linearly in relation to an operational input force from the brake operating member in accordance with an operating stroke of the brake operating member; and

a brake controlling unit which is operated in accordance with the output force applied to the output member,

wherein a load sensor for detecting the output force is provided between the variable output mechanism and the output member; and

wherein the vehicle brake apparatus further comprises a reaction force unit including single spring for applying a reaction force to the output member by directly biasing the output member.